



05-09-1  
1

Substitute Sequence Listing

GAY 1655  
#9/C 5/16/01  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Jan Vijg

Serial No.: 09/306,333

Group Art Unit: 1655

Filed: May 6, 1999

Examiner: Souaya, J.

For: BRCA1 and hMLH1 Gene Primer Sequences And Method For Testing

\* \* \*

Sequence Listing Disc



REF ID: 09/306,333  
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~~SEQUENCE LISTING~~

(1) GENERAL INFORMATION:

(i) APPLICANT: Vijg, Jan  
(ii) TITLE OF INVENTION: BRCA1 And hMLH1 Gene Primer Sequences And Method For Testing

(iii) NUMBER OF SEQUENCES: 122

(iv) CORRESPONDENCE ADDRESS:

(A) ADDRESSEE: Rines & Rines  
(B) STREET: 81 North State Street

(C) CITY: Concord

(D) STATE: NH

(E) COUNTRY: USA

(F) ZIP: 03301

(v) COMPUTER READABLE FORM:

(A) MEDIUM TYPE: Diskette, 3.50 inch

(B) COMPUTER: IBM PC

(C) OPERATING SYSTEM: MS-DOS

(D) SOFTWARE: Microsoft Wordpad

(vi) CURRENT APPLICATION DATA:

(A) APPLICATION NUMBER: 09/306,333

(B) FILING DATE: 06-MAY-1999

(C) CLASSIFICATION:

(vii) PRIOR APPLICATION DATA: None

(viii) ATTORNEY/AGENT INFORMATION:

(A) NAME: Rines, Robert H.

(B) REGISTRATION NUMBER: 15,932

(ix) TELECOMMUNICATION INFORMATION:

(A) TELEPHONE: (603) 228-0121

(B) TELEFAX: (603) 228-0210

(2) INFORMATION FOR SEQ ID NO: 1

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME/SEGMENT: 3

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1

GCGGCTAACG TACAGCTGAA GGAAGAACGT GA

32

(3) INFORMATION FOR SEQ ID NO: 2

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2  
GGCGAGACAG GATTACTCTG AGACCTAGGC CC 32  
(4) INFORMATION FOR SEQ ID NO: 3  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 35 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 3  
GCGCCCCTTG GGATTAGTAT CTATCTCTCT ACTGG 35  
(5) INFORMATION FOR SEQ ID NO: 4  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 30 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 4  
GCGCTCATCT CTTTCAAAGA GGAGAGCCTG 30  
(6) INFORMATION FOR SEQ ID NO: 5  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 31 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 5

CGGGCTTTTC TCCCCCTCCC ACTATCTAAG G  
 (7) INFORMATION FOR SEQ ID NO: 6  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 28 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: genomic DNA  
 (iii) HYPOTHETICAL: no  
 (iv) ANTI-SENSE: no  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: human  
 (vii) IMMEDIATE SOURCE:  
 (A) LIBRARY: genomic  
 (viii) POSITION IN GENOME:  
 (A) CHROMOSOME/SEGMENT: 3  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 6

28

GGGTTAGTAA AGGAAGAGGA GCTTGC  
 (8) INFORMATION FOR SEQ ID NO: 7  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 31 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: genomic DNA  
 (iii) HYPOTHETICAL: no  
 (iv) ANTI-SENSE: no  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: human  
 (vii) IMMEDIATE SOURCE:  
 (A) LIBRARY: genomic  
 (viii) POSITION IN GENOME:  
 (A) CHROMOSOME/SEGMENT: 3  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 7

31

GGTGCTTG G TCAATGAAGT GGGGTTGGTA G  
 (9) INFORMATION FOR SEQ ID NO: 8  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 34 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: genomic DNA  
 (iii) HYPOTHETICAL: no  
 (iv) ANTI-SENSE: no  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: human  
 (vii) IMMEDIATE SOURCE:  
 (A) LIBRARY: genomic  
 (viii) POSITION IN GENOME:  
 (A) CHROMOSOME/SEGMENT: 3  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 8  
 GCGCGCGTAT GTTGGTACAC TTTGTATATC ACAC  
 (10) INFORMATION FOR SEQ ID NO: 9  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 19 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded

34

(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 9

TTTTTTTTT TTTAATACA

19

(11) INFORMATION FOR SEQ ID NO: 10  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 10

AATCTGTACG AACCATCT

18

(12) INFORMATION FOR SEQ ID NO: 11  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 11

TGGAAGTAGT GATAAGGT

18

(13) INFORMATION FOR SEQ ID NO: 12  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 12

18

TGTACTTTTC CCAAAAGG  
(14) INFORMATION FOR SEQ ID NO: 13  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 13

18

ATCTGCACCTT CCTTTTCT  
(15) INFORMATION FOR SEQ ID NO: 14  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 14

18

AAAACCTTGG CAGTTGAG  
(16) INFORMATION FOR SEQ ID NO: 15  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 15

18

TACTTACCTG TTTTTTGG

(17) INFORMATION FOR SEQ ID NO: 16  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 16

18

GTAGTAGCTC TGCTTGTT  
(18) INFORMATION FOR SEQ ID NO: 17  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 17

18

CAGCTTTTCC TTAAAGTC  
(19) INFORMATION FOR SEQ ID NO: 18  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 18

18

CAGTTGAAAT GTCAGAAG  
(20) INFORMATION FOR SEQ ID NO: 19  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 19

18

CTTGCTCCTT CATGTTCTG  
(21) INFORMATION FOR SEQ ID NO: 20  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 21 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 20

21

AGAAGTATAA GAATGGCTGT C  
(22) INFORMATION FOR SEQ ID NO: 21  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 21

18

ATTATTTCTT GTTCCCTT  
(23) INFORMATION FOR SEQ ID NO: 22  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 22

18

AATGCTTAGT ATCTGCCT  
(24) INFORMATION FOR SEQ ID NO: 23

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 23

20

CCTATTGAGT GGTATTGAAT  
(25) INFORMATION FOR SEQ ID NO: 24

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 17 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 24

17

GCCAGTGTGC ATCACCA  
(26) INFORMATION FOR SEQ ID NO: 25

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 25  
TGTTGGGATG CAAACAGG  
(27) INFORMATION FOR SEQ ID NO: 26

18

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 3  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 26

18

ATCCACAGT GCATAAT  
(28) INFORMATION FOR SEQ ID NO: 27

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT:  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 27

50

CGCCCGCCGC CGCCCGCCGC GCCCGCGGCC CGTCCCGCCG CCCCCGCCCG

(29) INFORMATION FOR SEQ ID NO: 28

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 45 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: Synthetic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE: Synthetic  
(vii) IMMEDIATE SOURCE: Synthetic  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 28

45

CGCCCGCCGC GCCCGCGGCC CGTCCCGCCG CCCCCGCCCG GCCCG

(30) INFORMATION FOR SEQ ID NO: 29

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: Synthetic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE: Synthetic  
(vii) IMMEDIATE SOURCE: Synthetic

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 29  
CGCCCGCCGC GCCCCGCC CGGCCCGCCG CCCCCGCCCG

40

(31) INFORMATION FOR SEQ ID NO: 30

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 8 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Synthetic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE: Synthetic

(vii) IMMEDIATE SOURCE: Synthetic

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 30

CGTCCCGC

8

(32) INFORMATION FOR SEQ ID NO: 31

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 5 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Synthetic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE: Synthetic

(vii) IMMEDIATE SOURCE: Synthetic

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 31

GCGCG

5

(33) INFORMATION FOR SEQ ID NO: 32

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 2 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: Synthetic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE: Synthetic

(vii) IMMEDIATE SOURCE: Synthetic

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 32

CG

2

(34) INFORMATION FOR SEQ ID NO: 33

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 38 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME/SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 33

TGTACCTTGA TTTCGTATTG TGAGAGGCTG CTGCTTAG  
(35) INFORMATION FOR SEQ ID NO: 34

38

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 18 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 34

GAGAAAGAAT GAATTGGAGT TGGATTTCG TTCTCAC

37

(36) INFORMATION FOR SEQ ID NO: 35

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 35

TAGCCATGAA AAGATAATCT CACAAGTGC CTTAAGAAC

39

(37) INFORMATION FOR SEQ ID NO: 36

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 32 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 36

ACCAGCCTAC TTGAGGGAGG AAGGTGGGAA GA

32

(38) INFORMATION FOR SEQ ID NO: 37

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 44 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17

44

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 37  
GAGAGCAGCT TTCACTAAT AAATAAGATT GGTCAGCTTT CTGT

(39) INFORMATION FOR SEQ ID NO: 38  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 14 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17

44

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 38  
TCAAGTTAA GAAGCAGTTC CTTAACTAT ACTTGAAAT TTGT

(40) INFORMATION FOR SEQ ID NO: 39  
(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 34 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 39  
GCTAGGACGT CATCTTGGC TTGAATGAGC TTTA

34

(41) INFORMATION FOR SEQ ID NO: 40  
(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 32 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 40  
GCGATAATTA CCCATGTGCT GAGCAAGGAT CA 32  
(42) INFORMATION FOR SEQ ID NO: 41  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 32 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 41  
TCTTCAATGT GGAGGCAGTA GGGATGGAGA AA 32  
(43) INFORMATION FOR SEQ ID NO: 42  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 32 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 42  
GGGTCTCCAG GTTTGCCTC ACTTGTCTT TC 32  
(44) INFORMATION FOR SEQ ID NO: 43  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 41 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 43  
TCTTAACCTC ATATCAGCCT CCCCTAGACT TCCAAATATC C 41

(45) INFORMATION FOR SEQ ID NO: 44  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 32 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME/SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 44  
CATCTCTGCA AACCCCACTC CAATACAGCG TG

(46) INFORMATION FOR SEQ ID NO: 45  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 38 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME/SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 45  
CACTCTTCCA TCCCAACCAC ATCCCTCAGT ATTGTCTC

(47) INFORMATION FOR SEQ ID NO: 46  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 35 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME/SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 46  
GCATCGCCAG AAGTCCTTT CAGGCTGATG TACAT

(48) INFORMATION FOR SEQ ID NO: 47  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 22 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear

32

38

35

(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 47

22

ACCTTGTTAT TTTTGTATAT TT  
(49) INFORMATION FOR SEQ ID NO: 48  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 48

18

TTGCTAAGCC AGGCTGTT  
(50) INFORMATION FOR SEQ ID NO: 49  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 49

20

ATACTCATGC CAGCTCATTAA  
(51) INFORMATION FOR SEQ ID NO: 50  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 50

20

AACGTCCAAT ACATCAGCTA

(52) INFORMATION FOR SEQ ID NO: 51

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 51

20

CATGCTCAGA GAATCCTAGA

(53) INFORMATION FOR SEQ ID NO: 52

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 52

20

CTGTGGCTCA GTAACAAATG

(54) INFORMATION FOR SEQ ID NO: 53

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 53

20

TCACTCCAAA TCAGTAGAGA

(55) INFORMATION FOR SEQ ID NO: 54

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(v) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vi) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(vii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 54

20

TACTGCTGCT TATAGGTTCA  
(56) INFORMATION FOR SEQ ID NO: 55  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(v) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vi) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(vii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 55

20

GAAAGCAGAT TTGGCAGTTC  
(57) INFORMATION FOR SEQ ID NO: 56  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(v) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vi) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(vii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 56

20

CTGACTGGCA TTTGGTTGTA  
(58) INFORMATION FOR SEQ ID NO: 57  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 57

20

GAATAGGCTG AGGAGGAAGT  
(59) INFORMATION FOR SEQ ID NO: 58

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 58

20

CTCTTGGAAAG GCTAGGATTG  
(60) INFORMATION FOR SEQ ID NO: 59

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 59

20

ACAGCGATAC TTTCCCGAGAG  
(61) INFORMATION FOR SEQ ID NO: 60

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 60

TGCCTTCCCT AGAGTGCTAA

20

(62) INFORMATION FOR SEQ ID NO: 61

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 61

20

TTGCAAATG AAAGATCTGT

(63) INFORMATION FOR SEQ ID NO: 62

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 62

20

GCTTGAAAC CTTGAATGTA

(64) INFORMATION FOR SEQ ID NO: 63

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 63

20

GTCGGGAAAC AAGCATCGAA

(65) INFORMATION FOR SEQ ID NO: 64

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(A) SEQUENCE DESCRIPTION: SEQ ID NO: 64

20

TTGCCTCTGA ACTGAGATGA

(66) INFORMATION FOR SEQ ID NO: 65  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 65

20

TAATATCACT GCAGGCTTTC

(67) INFORMATION FOR SEQ ID NO: 66  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 66

20

TTCCTCAAAG TTTCTCTA

(68) INFORMATION FOR SEQ ID NO: 67  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 67

20

TCCCATCAAG TCATTTGTTA  
(69) INFORMATION FOR SEQ ID NO: 68

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 68

20

TTGCAGGAAG AGTTTGTAA  
(70) INFORMATION FOR SEQ ID NO: 69

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 69

20

TAATGAAGTG GGCTCAGTA  
(71) INFORMATION FOR SEQ ID NO: 70

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 70

20

CTTCCCATAG GCTGTTCTAA

(72) INFORMATION FOR SEQ ID NO: 71

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 71

20

GCAAGAATAT GAAGAAGTAG

(73) INFORMATION FOR SEQ ID NO: 72

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 72

20

CAAATGTGTA TGGGTGAAAC

(74) INFORMATION FOR SEQ ID NO: 73

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 73

20

AGACACCTGA TGACCTGTTA

(75) INFORMATION FOR SEQ ID NO: 74

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 74

TCTCCTCTGT GTTCTTAGAC

20

(76) INFORMATION FOR SEQ ID NO: 75

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 75

CTTTTCACCC ATACACATT

20

(77) INFORMATION FOR SEQ ID NO: 76

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 76

GAATGATGCC TCATTTGTTT

20

(78) INFORMATION FOR SEQ ID NO: 77

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 77

20

CTCAGGAAC~~A~~ TCACCTTAGT  
(79) INFORMATION FOR SEQ ID NO: 78

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 78

20

ATAAAATAGAC~~T~~ TGGGCCACAC

(80) INFORMATION FOR SEQ ID NO: 79

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 22 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 79

22

TATATATGTT TTTCTAATGT GT

20

(81) INFORMATION FOR SEQ ID NO: 80

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 20 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 80

20

TCCCAAATTA ATACACTCTT

(82) INFORMATION FOR SEQ ID NO: 81

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 81

18

GAGCCTCATT TATTTCTT

(83) INFORMATION FOR SEQ ID NO: 82

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 82

18

ATTTTTCGTT CTCACCTT

(84) INFORMATION FOR SEQ ID NO: 83

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 83

18

TATTTGCCTT TTGAGTAT

(85) INFORMATION FOR SEQ ID NO: 84

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 84

18

TCTGATGAAT GGTTTTAT

(86) INFORMATION FOR SEQ ID NO: 85

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 85

18

ACTTGCTGAG TGTTGTTTC

(87) INFORMATION FOR SEQ ID NO: 86

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 86

18

GCACATTGAGT TGCATTCT

(88) INFORMATION FOR SEQ ID NO: 87

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 19 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 87

19

TACATTTTC TCTAACTG  
(89) INFORMATION FOR SEQ ID NO: 88

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 19 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic

(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 88

19

GAAGAAAACA AATGGTTT  
(90) INFORMATION FOR SEQ ID NO: 89

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic

(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 89

18

GGAGGAAAAG CACAGAAC  
(91) INFORMATION FOR SEQ ID NO: 90

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 23 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic

(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 90

23

CCAGCAATTA TTATTAATAA CTT

(92) INFORMATION FOR SEQ ID NO: 91

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(iii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME/SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 91

18

CAGTCACTGC TCAGTAAA

(93) INFORMATION FOR SEQ ID NO: 92

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME/SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 92

18

ATTACCAGCT TCATAGAC

(94) INFORMATION FOR SEQ ID NO: 93

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME/SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 93

18

CTGCATACAT CTAACATAG

(95) INFORMATION FOR SEQ ID NO: 94

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 94

CTACCCACTC TCTTTCA

18

(96) INFORMATION FOR SEQ ID NO: 95  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 95

AGTGCAGCG TTTATAGT

18

(97) INFORMATION FOR SEQ ID NO: 96  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 96

CAGCAAACCT AAGAATGT

18

(98) INFORMATION FOR SEQ ID NO: 97  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:

(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 97

GCTTCTCAAA GTATTTCA

18

(99) INFORMATION FOR SEQ ID NO: 98

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 98

AGTGTGTTGGC CAACAATA

18

(100) INFORMATION FOR SEQ ID NO: 99

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 99

CCAATTTGTG TATGATAG

18

(101) INFORMATION FOR SEQ ID NO: 100

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA

(iii) HYPOTHETICAL: no

(iv) ANTI-SENSE: no

(vi) ORIGINAL SOURCE:

(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic

(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 100

AGTGTATAAA TGCCTGTA  
 (102) INFORMATION FOR SEQ ID NO: 101  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: genomic DNA  
 (iii) HYPOTHETICAL: no  
 (iv) ANTI-SENSE: no  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: human  
 (vii) IMMEDIATE SOURCE:  
 (A) LIBRARY: genomic  
 (viii) POSITION IN GENOME:  
 (A) CHROMOSOME SEGMENT: 17  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 101

20

TGGTTTTCTC CTTCCATTAA  
 (103) INFORMATION FOR SEQ ID NO: 102  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: genomic DNA  
 (iii) HYPOTHETICAL: no  
 (iv) ANTI-SENSE: no  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: human  
 (vii) IMMEDIATE SOURCE:  
 (A) LIBRARY: genomic  
 (viii) POSITION IN GENOME:  
 (A) CHROMOSOME SEGMENT: 17  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 102

20

TGTTCCAATA CAGCAGATGA  
 (104) INFORMATION FOR SEQ ID NO: 103  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded  
 (D) TOPOLOGY: linear  
 (ii) MOLECULE TYPE: genomic DNA  
 (iii) HYPOTHETICAL: no  
 (iv) ANTI-SENSE: no  
 (vi) ORIGINAL SOURCE:  
 (A) ORGANISM: human  
 (vii) IMMEDIATE SOURCE:  
 (A) LIBRARY: genomic  
 (viii) POSITION IN GENOME:  
 (A) CHROMOSOME SEGMENT: 17  
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 103

20

CGTTGTGTAATTAAACTTC  
 (105) INFORMATION FOR SEQ ID NO: 104  
 (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 20 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: double stranded

(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 104

20

AGTCATTAGG GAGATACATA

(106) INFORMATION FOR SEQ ID NO: 105  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 105

18

TGTGCTAGAG GTAAGTCA

(107) INFORMATION FOR SEQ ID NO: 106  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 106

18

CTCATGTGGT TTTATGCA

(108) INFORMATION FOR SEQ ID NO: 107  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 19 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human

(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 107

19

TTTCAACTTC TAATCCTTT  
(109) INFORMATION FOR SEQ ID NO: 108

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 19 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:

(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 108

19

GGAGAAATAG TATTATACT  
(110) INFORMATION FOR SEQ ID NO: 109

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:

(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 109

18

GTTCTTCTGC TGTATGTA  
(111) INFORMATION FOR SEQ ID NO: 110

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:

(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:

(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 110

18

CTGAATGTTT ATCTCTGG

(112) INFORMATION FOR SEQ ID NO: 111  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 19 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME/SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 111  
CTCTTCTCT TATCCTGAT

19

(113) INFORMATION FOR SEQ ID NO: 112  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME/SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 112  
TGGTGGGGTG AGATTTT

18

(114) INFORMATION FOR SEQ ID NO: 113  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 19 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME/SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 113  
ATTCCCCTGT CCCTCTT

19

(115) INFORMATION FOR SEQ ID NO: 114  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 114

18

CTGGAACCTCT GGGGTTCT  
(116) INFORMATION FOR SEQ ID NO: 115  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 115

20

TGATTTTACA TCTAXATGTC  
(117) INFORMATION FOR SEQ ID NO: 116  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 116

18

AGGAGAGAAT ATTGTGTC  
(118) INFORMATION FOR SEQ ID NO: 117  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 18 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 117

18

TAGTCCTACT TTGACACT  
(119) INFORMATION FOR SEQ ID NO: 118

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:

(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 118

20

AAATATTTAA AATGTGCCAA  
(120) INFORMATION FOR SEQ ID NO: 119

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 119

20

ATTCTCTGCT TGTGTTCTCT  
(121) INFORMATION FOR SEQ ID NO: 120

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 20 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: genomic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE:  
(A) ORGANISM: human  
(vii) IMMEDIATE SOURCE:  
(A) LIBRARY: genomic  
(viii) POSITION IN GENOME:  
(A) CHROMOSOME SEGMENT: 17  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 120

20

ATTTAGTAGC CAGGACAGTA  
(122) INFORMATION FOR SEQ ID NO: 121

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 1 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: Synthetic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE: Synthetic  
(vii) IMMEDIATE SOURCE: Synthetic  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 121

1

G  
(123) INFORMATION FOR SEQ ID NO: 122  
(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 50 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: double stranded  
(D) TOPOLOGY: linear  
(ii) MOLECULE TYPE: Synthetic DNA  
(iii) HYPOTHETICAL: no  
(iv) ANTI-SENSE: no  
(vi) ORIGINAL SOURCE: Synthetic  
(vii) IMMEDIATE SOURCE: Synthetic  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO: 122

50

CGCCCGCCGC GCCCGCGCC CGGCCGCCG CCCCCGCCG AAATAATAAA



RECEIVED<sup>TM</sup>

NOV 02 2000

TECH Ctr. 11/29/00

RECEIVED

NOV 07 2000

TECH CENTER 1600/2900

Table 1

**PRIMER SEQUENCES AND TARGET FRAGMENT LENGTH FOR *hMLH1* LONG  
MULTIPLEX PCR**

**EXONS 1-4**

*hMLH1* 1-4F - SEQ ID NO: 1  
*hMLH1* 1-4R - SEQ ID NO: 2

TARGET FRAGMENT LENGTH: 10.8KB

**EXONS 5-10**

*hMLH1* 5-10F - SEQ ID NO: 3  
*hMLH1* 5-10R - SEQ ID NO: 4

TARGET FRAGMENT LENGTH: 10.5KB

**EXONS 11-13**

*hMLH1* 11-13F - SEQ ID NO: 5  
*hMLH1* 11-13R - SEQ ID NO: 6

TARGET FRAGMENT LENGTH: 8.7KB

**EXONS 14-19**

*hMLH1* 14-19F - SEQ ID NO: 7  
*hMLH1* 14-19R - SEQ ID NO: 8

TARGET FRAGMENT LENGTH: 10.5KB

Table 2

**PRIMER SEQUENCES AND TARGET FRAGMENT LENGTH FOR *BRCA1* LONG MULTIPLEX  
PCR**

**EXONS 1-3**

PRIMER SEQUENCES  
*BRCA1* 1-3F - SEQ ID NO: 33  
*BRCA1* 1-3R - SEQ ID NO: 34

TARGET FRAGMENT SIZE: 9.9KB

**EXONS 5-9**

PRIMER SEQUENCES  
*BRCA1* 5-9F - SEQ ID NO: 35  
*BRCA1* 5-9R - SEQ ID NO: 36

TARGET FRAGMENT SIZE: 9.7KB

**Table 2 Continued****EXONS 10-11**

PRIMER SEQUENCES  
BRCA1 10-11F – SEQ ID NO: 37  
BRCA1 10-11R – SEQ ID NO: 38

TARGET FRAGMENT SIZE: 4.8KB

**EXONS 12-13**

PRIMER SEQUENCES  
BRCA1 12-13F – SEQ ID NO: 39  
BRCA1 12-13R – SEQ ID NO: 40

TARGET FRAGMENT SIZE: 9.0KB

**EXONS 14-17**

PRIMER SEQUENCES  
BRCA1 14-17F – SEQ ID NO: 41  
BRCA1 14-17R – SEQ ID NO: 42

TARGET FRAGMENT SIZE: 10.7KB

**EXONS 18-20**

PRIMER SEQUENCES  
BRCA1 18-20F – SEQ ID NO: 43  
BRCA1 18-20R – SEQ ID NO: 44

TARGET FRAGMENT SIZE: 7.2KB

**EXONS 21-24**

PRIMER SEQUENCES  
BRCA1 21-24F – SEQ ID NO: 45  
BRCA1 21-24R – SEQ ID NO: 46

TARGET FRAGMENT SIZE: 11.4KB

Table 3

EXON.FRAGMENT	PRIMER SEQUENCES	CLAMPING SEQUENCE(S)	TARGET LENGTH	MELTING TEMP. (°C)
12.1	12.1F - SEQ ID NO: 9	SEQ ID NO: 29	184	44.53
	12.1R - SEQ ID NO: 10	NO CLAMP		
12.2	12.2F - SEQ ID NO: 11	SEQ ID NO: 30	366	53.23
	12.2R - SEQ ID NO: 12	SEQ ID NO: 29		
13	13F - SEQ ID NO: 13	SEQ ID NO: 29	272	49.06
	13R - SEQ ID NO: 14	NO CLAMP		
14	14F - SEQ ID NO: 15	SEQ ID NO: 28	235	48.94
	14R - SEQ ID NO: 16	SEQ ID NO: 31		
15	15F - SEQ ID NO: 17	SEQ ID NO: 29	179	29.97
	15R - SEQ ID NO: 18	NO CLAMP		
16	16F - SEQ ID NO: 19	NO CLAMP	261	47.56
	16R - SEQ ID NO: 20	SEQ ID NO: 29		
17	17F - SEQ ID NO: 21	SEQ ID NO: 29	199	47.01
	17R - SEQ ID NO: 22	NO CLAMP		
18	18F - SEQ ID NO: 23	SEQ ID NO: 28	215	46.67
	18R - SEQ ID NO: 24	NO CLAMP		
19.1	19.1F - SEQ ID NO: 25	NO CLAMP	282	43.43
	19.1R - SEQ ID NO: 26	SEQ ID NO: 29		

Table 4

EXON.FRAGMENT	PRIMER SEQUENCES	CLAMPING SEQUENCE(S)	TARGET LENGTH	MELTING TEMP. (°C)
2	2F - SEQ ID NO: 79 2R - SEQ ID NO: 80	SEQ ID NO: 29 SEQ ID NO: 31	203	34.64
3	3F - SEQ ID NO: 81 3R - SEQ ID NO: 82	SEQ ID NO: 31 SEQ ID NO: 27	269	37.22
5	5F - SEQ ID NO: 83 5R - SEQ ID NO: 84	SEQ ID NO: 27 SEQ ID NO: 31	305	26.69
6	6F - SEQ ID NO: 85 6R - SEQ ID NO: 86	SEQ ID NO: 122 NO CLAMP	213	35.52
7	7F - SEQ ID NO: 87 7R - SEQ ID NO: 88	SEQ ID NO: 121 NO CLAMP	250	32.67
8	8F - SEQ ID NO: 89 8R - SEQ ID NO: 90	NO CLAMP SEQ ID NO: 121	248	40.51
9	9F - SEQ ID NO: 91 9R - SEQ ID NO: 92	SEQ ID NO: 121 NO CLAMP	242	24.26
10	10F - SEQ ID NO: 93 10R - SEQ ID NO: 94	SEQ ID NO: 27 NO CLAMP	229	38.3
11.1	11.1F - SEQ ID NO: 47 11.1R - SEQ ID NO: 48	SEQ ID NO: 121 SEQ ID NO: 30	347	40.99
11.2	11.2F - SEQ ID NO: 49 11.2R - SEQ ID NO: 50	SEQ ID NO: 121 SEQ ID NO: 31	461	40.74
11.3	11.3F - SEQ ID NO: 51 11.3R - SEQ ID NO: 52	NO CLAMP SEQ ID NO: 121	438	35.04
11.4	11.4F - SEQ ID NO: 53 11.4R - SEQ ID NO: 54	SEQ ID NO: 31 SEQ ID NO: 121	475	34.85
11.5	11.5F - SEQ ID NO: 55 11.5R - SEQ ID NO: 56	SEQ ID NO: 121 SEQ ID NO: 32	468	33.66
11.6	11.6F - SEQ ID NO: 57 11.6R - SEQ ID NO: 58	SEQ ID NO: 121 SEQ ID NO: 30	410	40.51
11.7	11.7F - SEQ ID NO: 59 11.7R - SEQ ID NO: 60	SEQ ID NO: 121 NO CLAMP	345	36.45
11.8	11.8F - SEQ ID NO: 61 11.8R - SEQ ID NO: 62	NO CLAMP SEQ ID NO: 121	365	38.37

Table 4 Continued ~2

EXON.FRAGMENT	PRIMER SEQUENCES	CLAMPING SEQUENCE(S)	TARGET LENGTH	MELTING TEMP. (°C)
11.9	11.9F - SEQ ID NO: 63 11.9R - SEQ ID NO: 64	SEQ ID NO: 30 SEQ ID NO: 27	422	40.4
11.10	11.10F - SEQ ID NO: 65 11.10R - SEQ ID NO: 66	SEQ ID NO: 31 SEQ ID NO: 29	292	35.93
11.11	11.11F - SEQ ID NO: 67 11.11R - SEQ ID NO: 68	SEQ ID NO: 29 NO CLAMP	390	33.06
11.12	11.12F - SEQ ID NO: 69	SEQ ID NO: 31	309	33.22
11.13	11.12R - SEQ ID NO: 70 11.13F - SEQ ID NO: 71	SEQ ID NO: 29 SEQ ID NO: 29	305	37.43
11.14	11.13R - SEQ ID NO: 72	NO CLAMP		
11.15	11.14F - SEQ ID NO: 73 11.14R - SEQ ID NO: 74	SEQ ID NO: 29 SEQ ID NO: 31	378	43.03
11.16	11.15F - SEQ ID NO: 75 11.15R - SEQ ID NO: 76	NO CLAMP SEQ ID NO: 122	460	39.33
12	11.16F - SEQ ID NO: 77 11.16R - SEQ ID NO: 78	SEQ ID NO: 121 SEQ ID NO: 27	356	44
13	12F - SEQ ID NO: 95 12R - SEQ ID NO: 96	SEQ ID NO: 27 SEQ ID NO: 30	289	48.54
14	13F - SEQ ID NO: 97 13R - SEQ ID NO: 98	SEQ ID NO: 27 SEQ ID NO: 30	293	45.18
15	14F - SEQ ID NO: 99 14R - SEQ ID NO: 100	SEQ ID NO: 27 SEQ ID NO: 30	417	30.78
16	15F - SEQ ID NO: 101 15R - SEQ ID NO: 102	SEQ ID NO: 29 SEQ ID NO: 121	303	46.07
17	16F - SEQ ID NO: 103 16R - SEQ ID NO: 104	SEQ ID NO: 121 SEQ ID NO: 29	427	47.49
18	17F - SEQ ID NO: 105 17R - SEQ ID NO: 106	SEQ ID NO: 27 SEQ ID NO: 32	242	32.51
19	18F - SEQ ID NO: 107 18R - SEQ ID NO: 108	SEQ ID NO: 31 SEQ ID NO: 27	194	36.32
	19F - SEQ ID NO: 109 19R - SEQ ID NO: 110	NO CLAMP SEQ ID NO: 27	178	32.32

Table 4 Continued ~3

EXON.FRAGMENT	PRIMER SEQUENCES	CLAMPING SEQUENCE(S)	TARGET LENGTH	MELTING TEMP. (°C)
20	20F - SEQ ID NO: 111 20R - SEQ ID NO: 112	SEQ ID NO: 27 NO CLAMP	219	46.4
21	21F - SEQ ID NO: 113	SEQ ID NO: 122	172	49.95
21R - SEQ ID NO: 114	NO CLAMP			
22	22F - SEQ ID NO: 115	SEQ ID NO: 27	209	47.71
22R - SEQ ID NO: 116	SEQ ID NO: 30			
23	23F - SEQ ID NO: 117	SEQ ID NO: 31	275	49.47
23R - SEQ ID NO: 118	SEQ ID NO: 27			
24	24F - SEQ ID NO: 119	SEQ ID NO: 122	325	59.79
24R - SEQ ID NO: 120	SEQ ID NO: 121			